

CLAIM OR CLAIMS

I/WE CLAIM:

1. A method for screening a compound for use in treatment of androgen related diseases comprising the steps of

testing the compound to determine the effect of the compound on nuclear receptor mediated transcriptional activity, the activity being mediated by a nuclear receptor selected from the group consisting of the TR2 orphan receptor, the TR4 orphan receptor, and the RXR receptor, and

observing the effect of such compound on the level of androgen receptor initiated transcription in the test.

2. A method for screening a compound for use in treatment of estrogen related diseases comprising the steps of

testing the compound to determine the effect of the compound on nuclear receptor mediated transcriptional activity, the activity being mediated by a nuclear receptor selected from the group consisting of the TR2 orphan receptor, the TR4 orphan receptor, and the RXR receptor, and

observing the effect of such compound on the level of estrogen receptor initiated transcription in the test.

3. A method for modulating the sensitivity of a cell to a sex hormone comprising the step of stimulating in the cell the abundance of a nuclear receptor selected from the groups consisting of the TR2 orphan receptor, the TR4 orphan receptor and the RXR receptor.

4. A method for modulating androgen receptor-mediated transactivation activity in a cell, comprising the step of:

treating the cell with a compound that can modulate TR2 orphan receptor level or TR4 orphan receptor level in the cell.

5. A method for down regulating androgen receptor-mediated transactivation activity in a cell, comprising the step of:

introducing TR2 orphan receptor ligand binding domain or TR4 orphan receptor ligand binding domain into the cell.

6. A method for modulating estrogen receptor-mediated transactivation activity in a cell, comprising the step of:

treating the cell with a compound that can change TR2 orphan receptor level or the TR4 orphan receptor level in the cell.

7. The method of claim 6 wherein the agent is TR2 receptor.

8. The method of claim 6 wherein the compound is the TR2 orphan receptor ligand binding domain.

9. A method for down regulating TR2 orphan receptor-mediated transactivation activity in a cell, comprising the step of:

introducing estrogen receptor ligand binding domain into the cell.

10. A method for screening a compound for treating androgen receptor-related diseases, comprising the step of:

exposing cells to the compound; and

determining the effect of the compound on TR2 or TR4 orphan receptor signaling pathway in the cells.

11. The method of claim 10, wherein the effect on TR4 orphan receptor signaling pathway is measured by TR4 orphan receptor level.

12. The method of claim 10, wherein the effect on TR4 orphan receptor signaling pathway is measured by TR4 orphan receptor-mediated transactivation activity.

13. A method for screening a compound for treating estrogen receptor-related diseases, comprising the step of:

exposing cells to the compound; and

determining the effect of the compound on TR2 orphan receptor signaling pathway in those cells.

14. The method of claim 13 wherein the effect on TR2 orphan receptor signaling pathway is measured by TR2 orphan receptor level.

15. The method of claim 13, wherein the effect on TR2 orphan receptor signaling pathway is measured by TR2 orphan receptor-mediated transactivation activity.